



i-MEET

NEXT GENERATION

Multidisciplinary European Endovascular Therapy

Diagnosis and treatment of type 3b endoleak

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Liverpool, UK

Disclosures

- Consultancy Cook Medical
- Research funding Endologix
- Lecture fees Maquet, Covidien

Implant Degradation and Poor Healing After Endovascular Repair of Abdominal Aortic Aneurysms: An Analysis of Explanted Stent-Grafts

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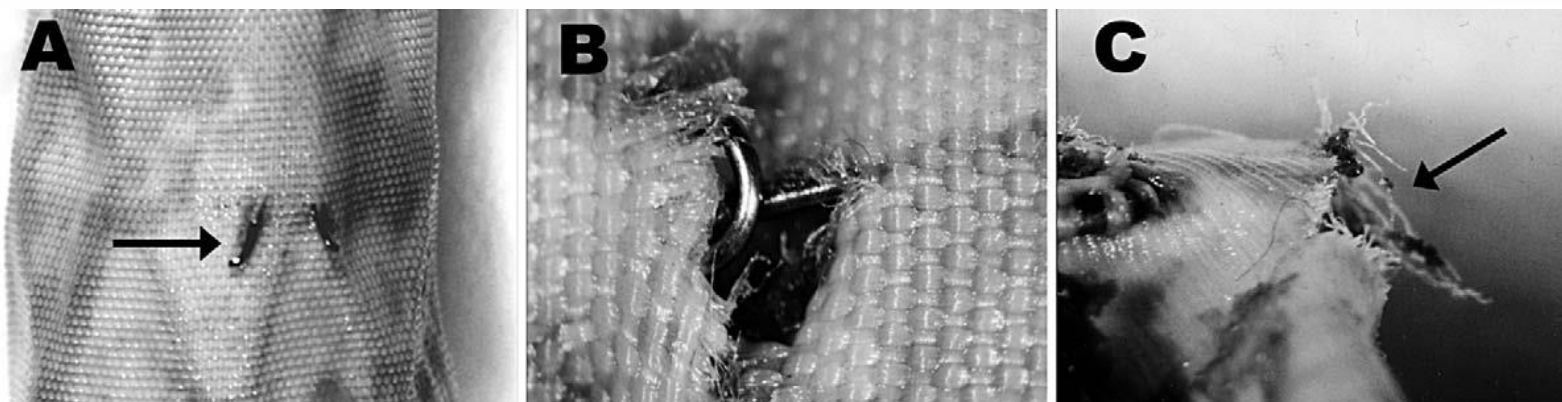


Figure 2 ♦ Graft alterations observed on explanted stent-grafts. (A) Broken struts protruded through the graft in a Vanguard specimen. Holes in a Vanguard fabric (B) and in a Talent monofilament fabric (C), which led to type III endoleaks in vivo (case 6).

J ENDOVASC THER
2006;13:457–467

Stent fabric fatigue of grafts supported by Z-stents versus ringed stents: An in vitro buckling test

Journal of Biomaterials Applications
2014, Vol. 28(7) 965–977
! The Author(s) 2013
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DOI: 10.1177/0885328213488228
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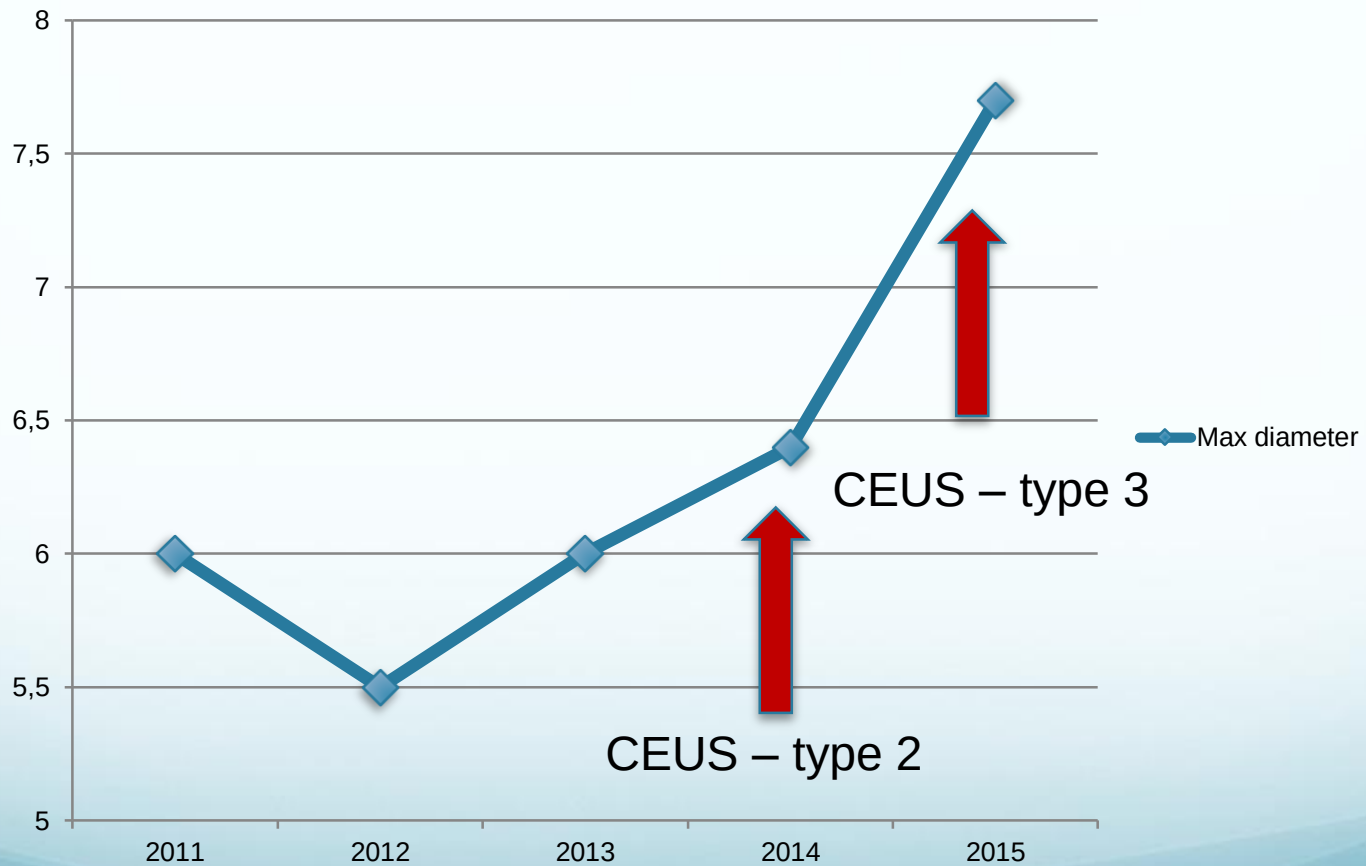
Jing Lin¹, Lu Wang¹, Robert Guidoin², Mark Nutley³, Ge Song¹, Ze Zhang²,
Jia Du¹ and Yvan Douville²

Conclusion

The shape of the supporting stents in the metallic frame of stent-grafts must be seriously revisited to determine how to prevent the penetration of any sharp apex through the fabric wall. The ringed stents thus far have proved to be much safer. Continuous

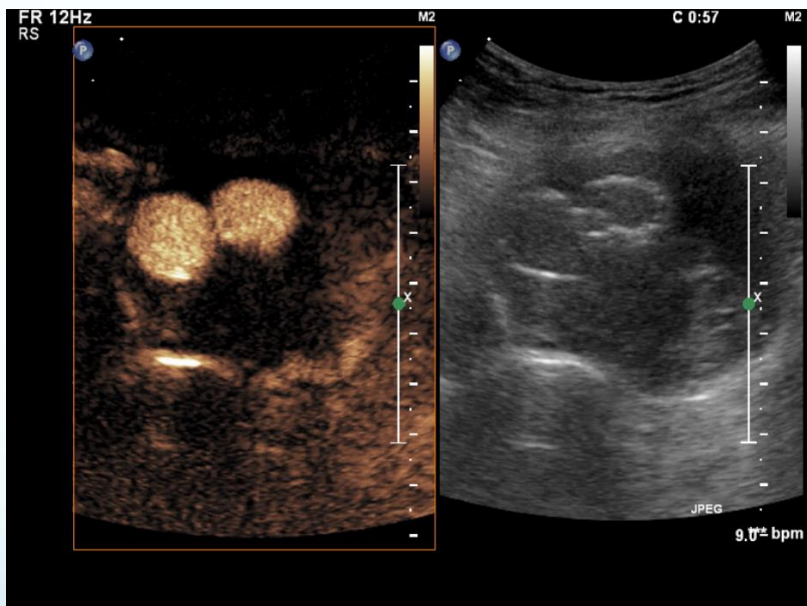
Case 1

Max diameter

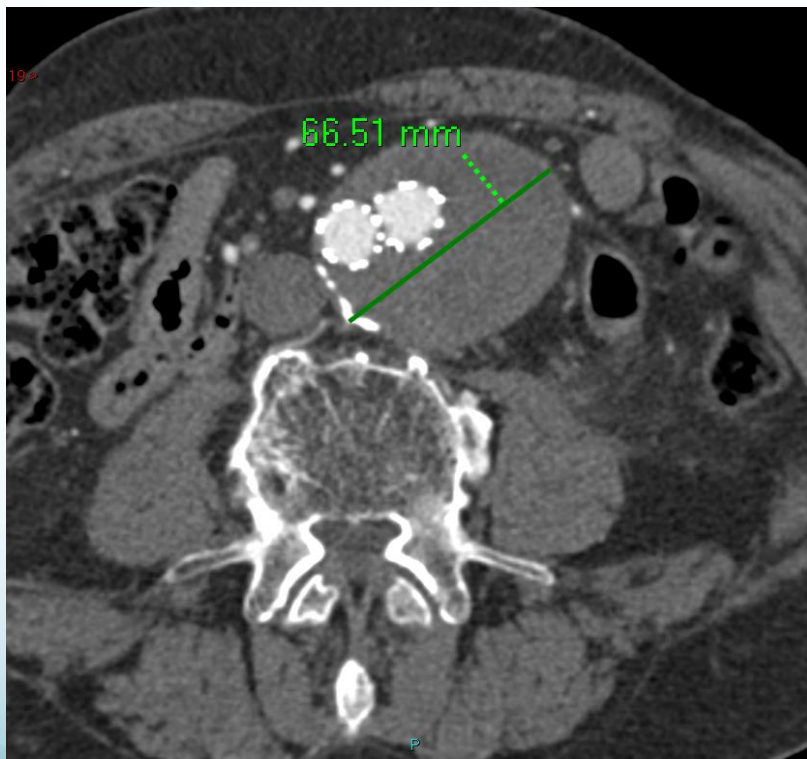






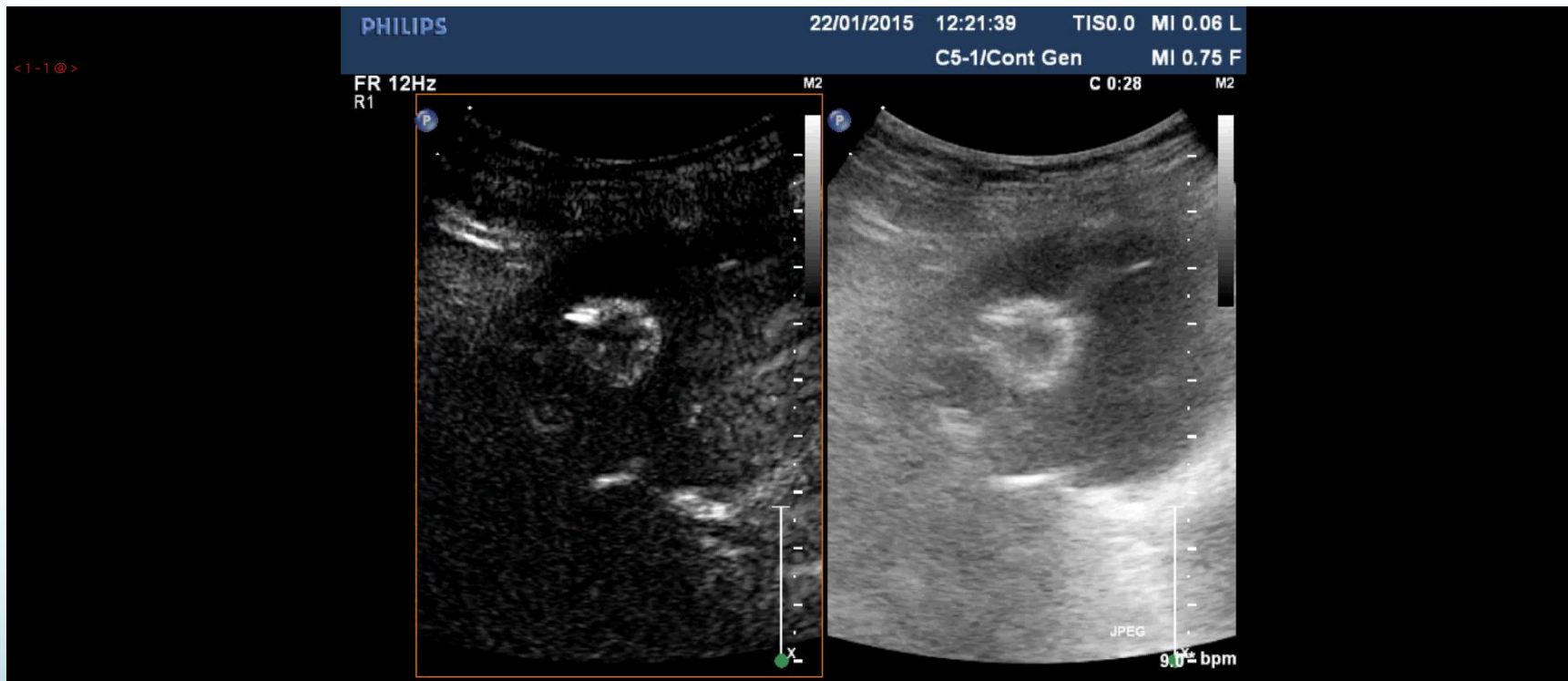


CT 3yr



CT 4yr





< 10-20 @ >



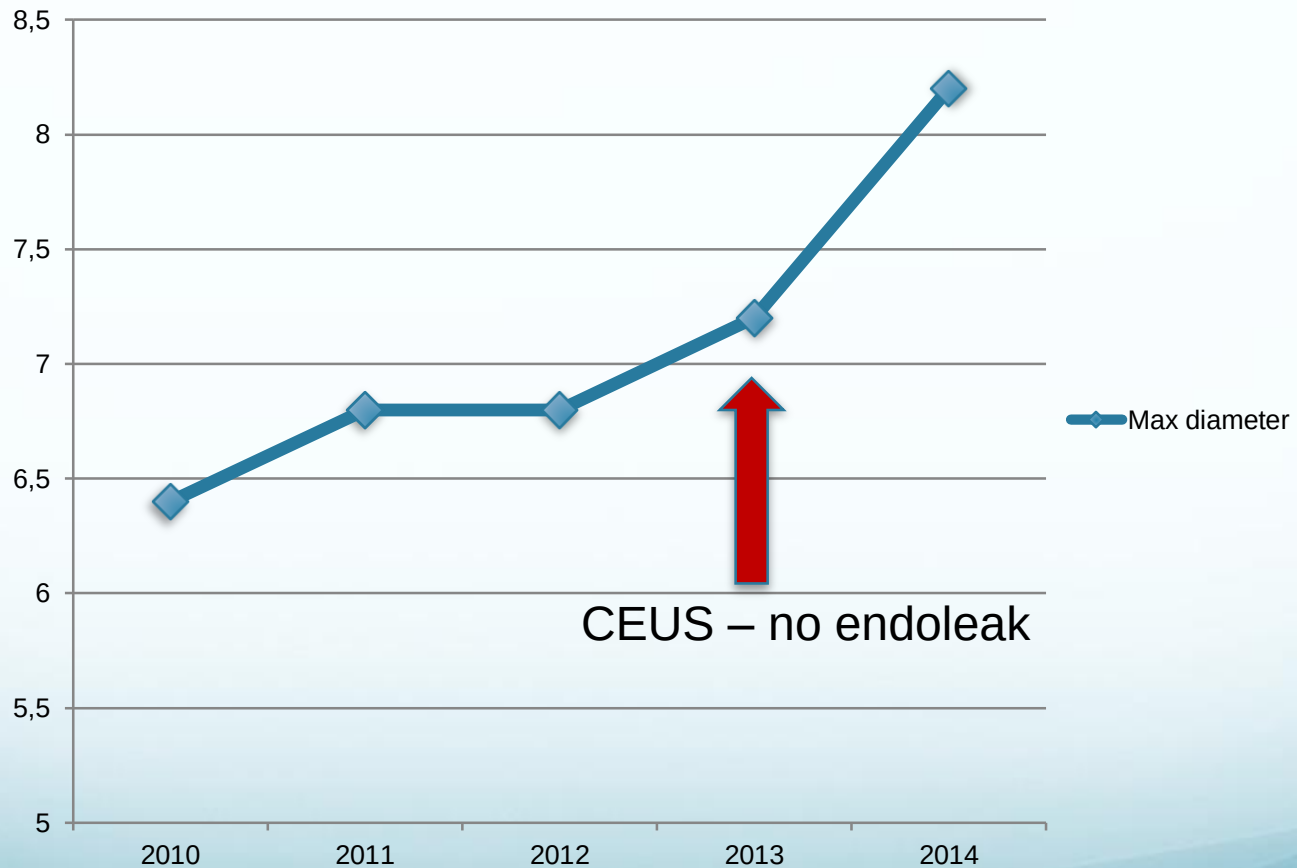


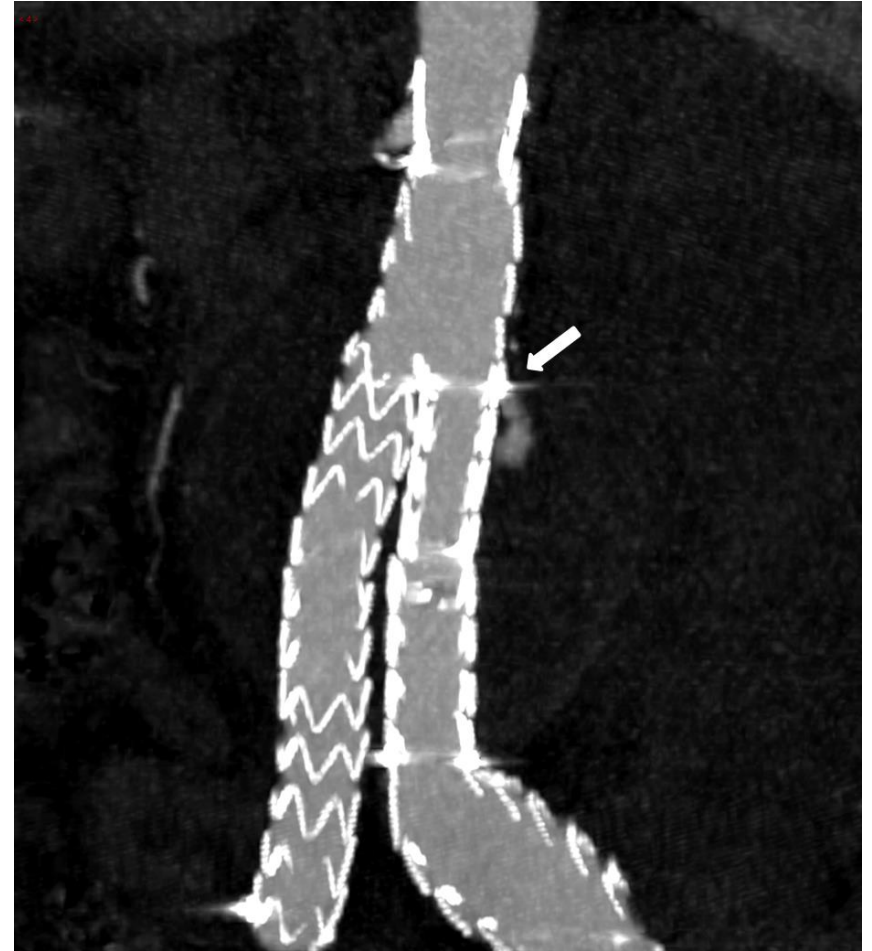




Case 2

Max diameter

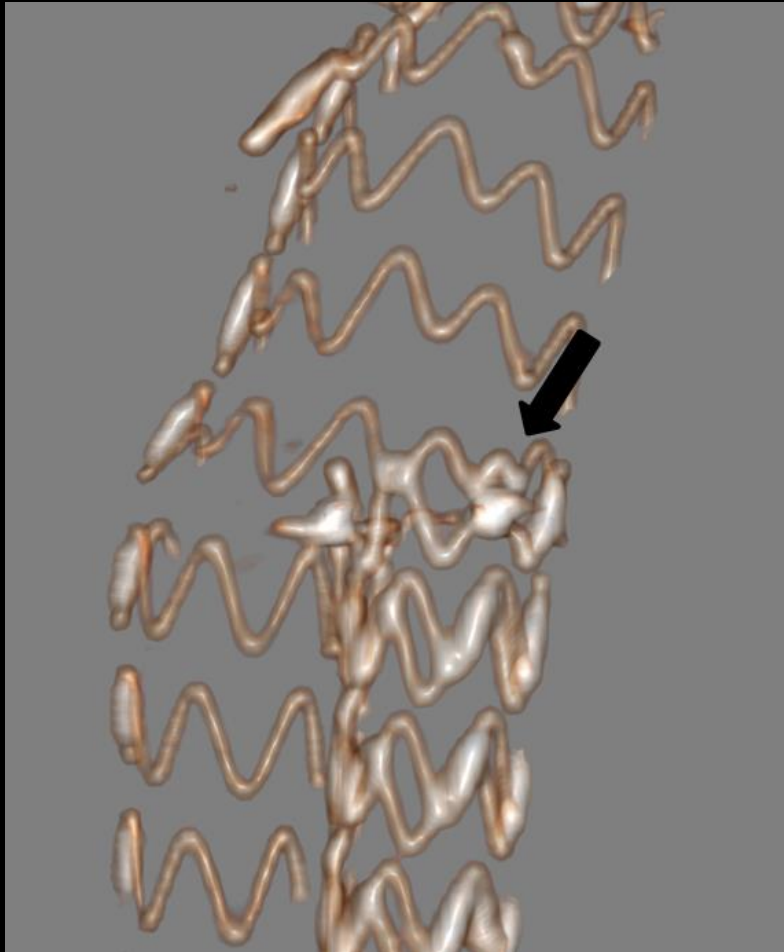




Type 3b endoleak with the Endurant graft: J Endovasc Ther. 2016 Feb;23(1):229-32



Type 3b endoleak with the Endurant graft: J Endovasc Ther. 2016 Feb;23(1):229-32



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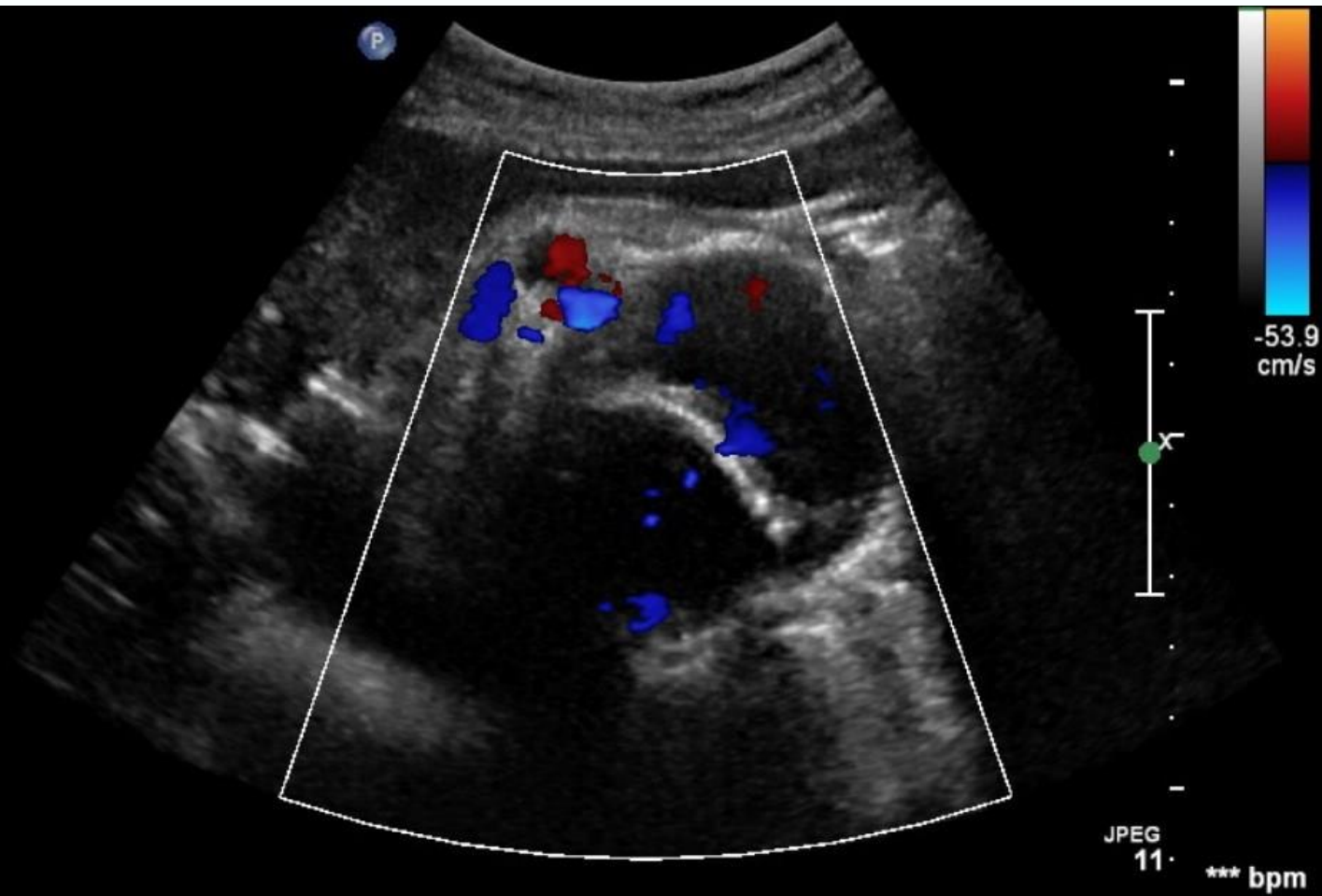
Case 3

Max diameter

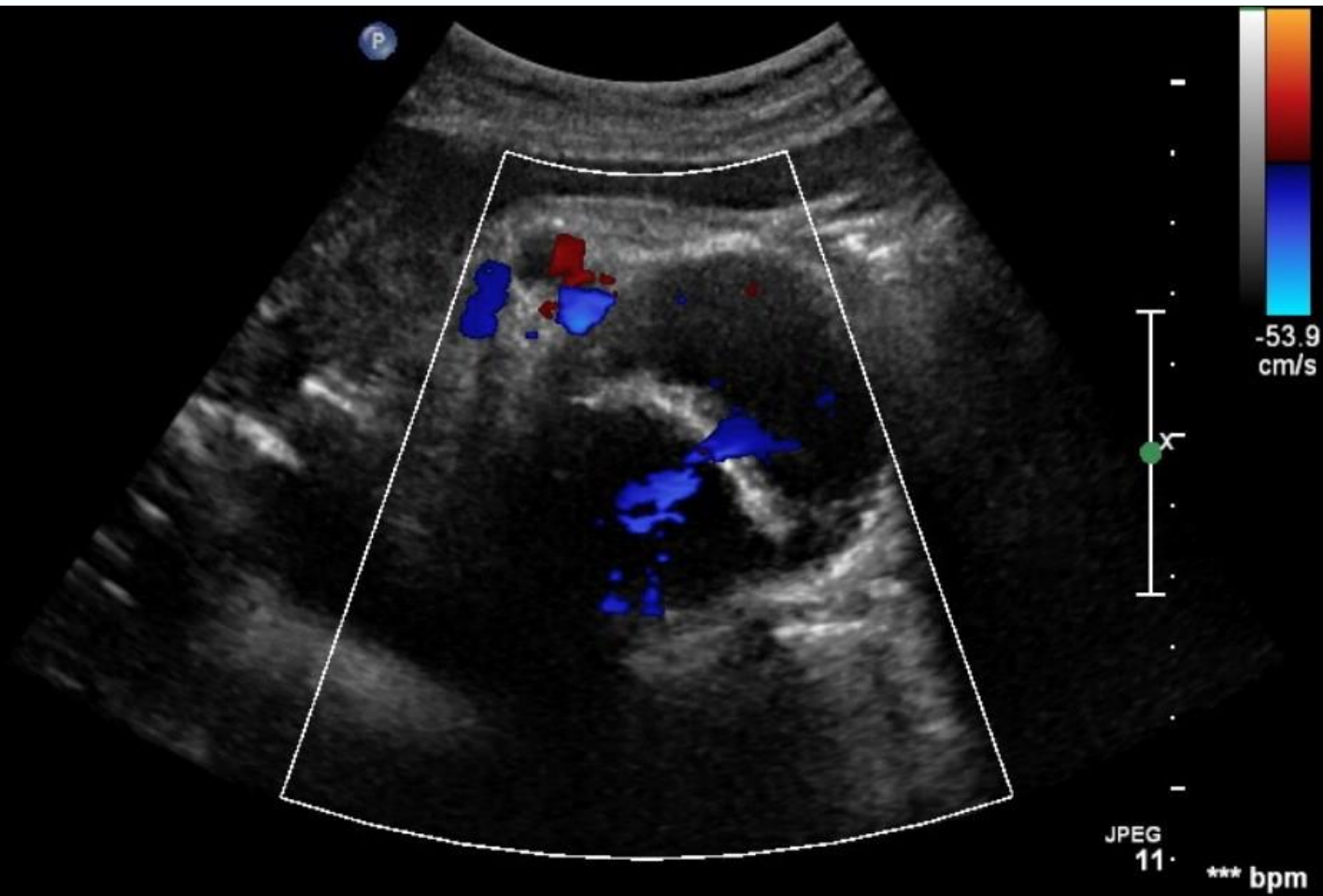




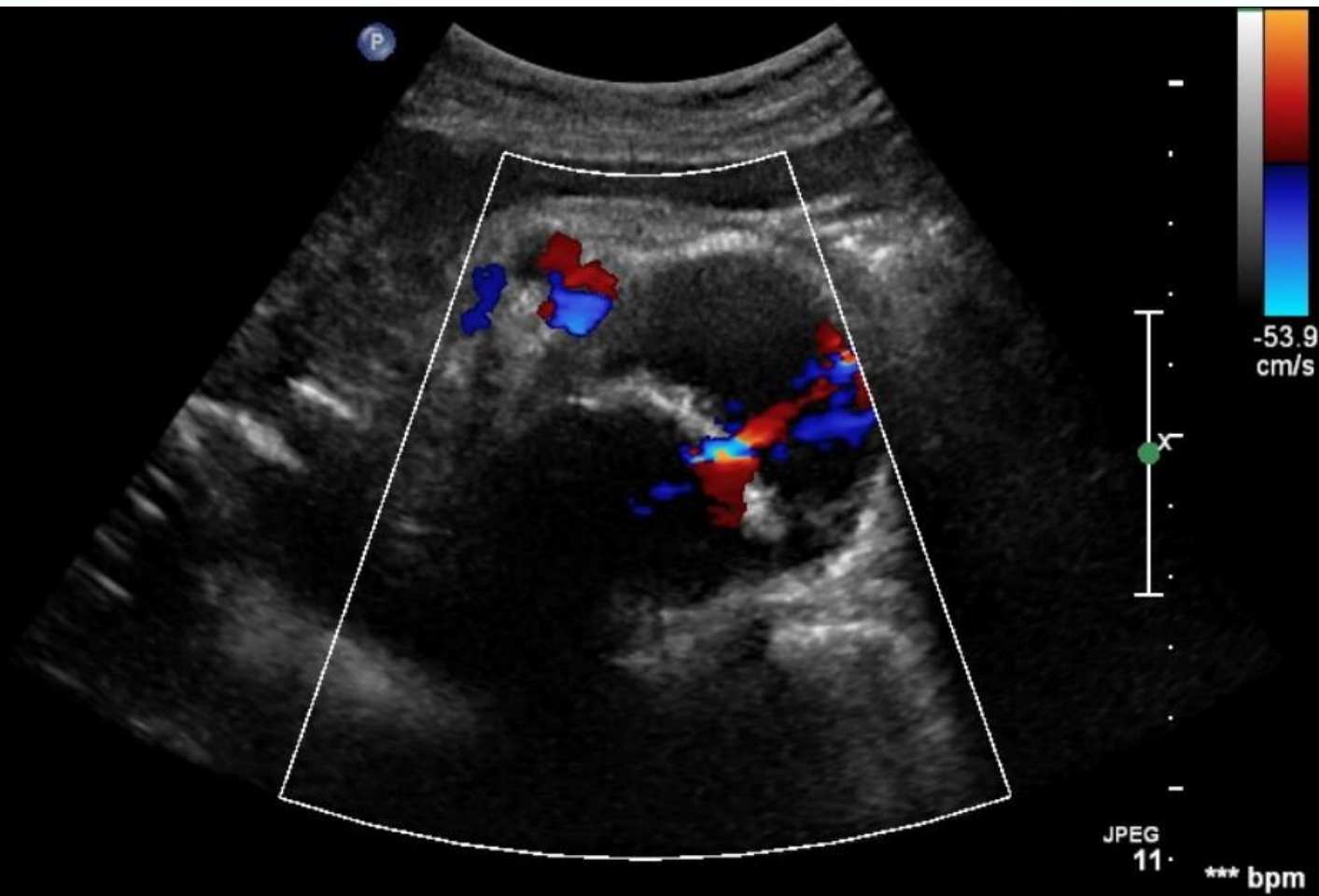
Aorta



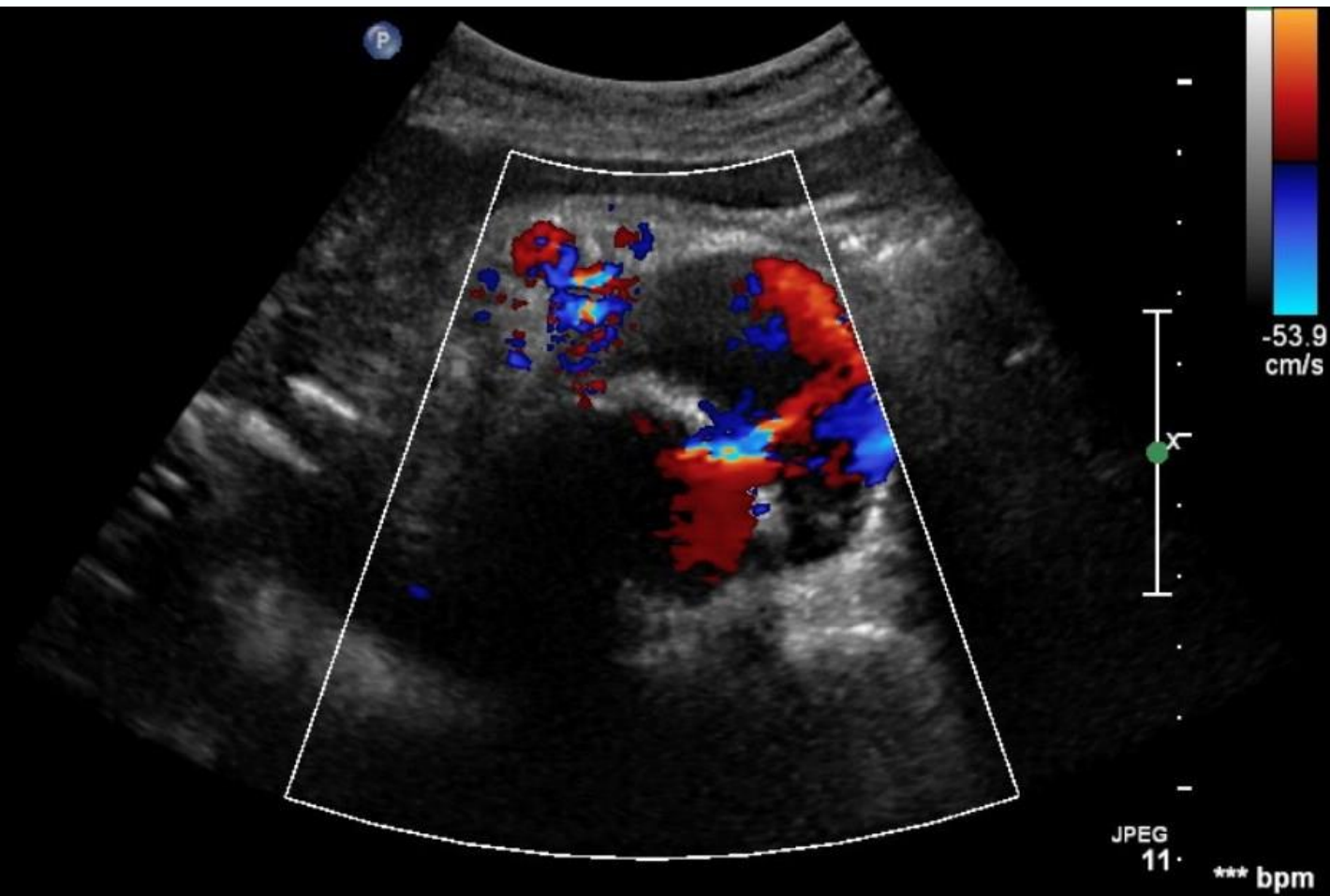
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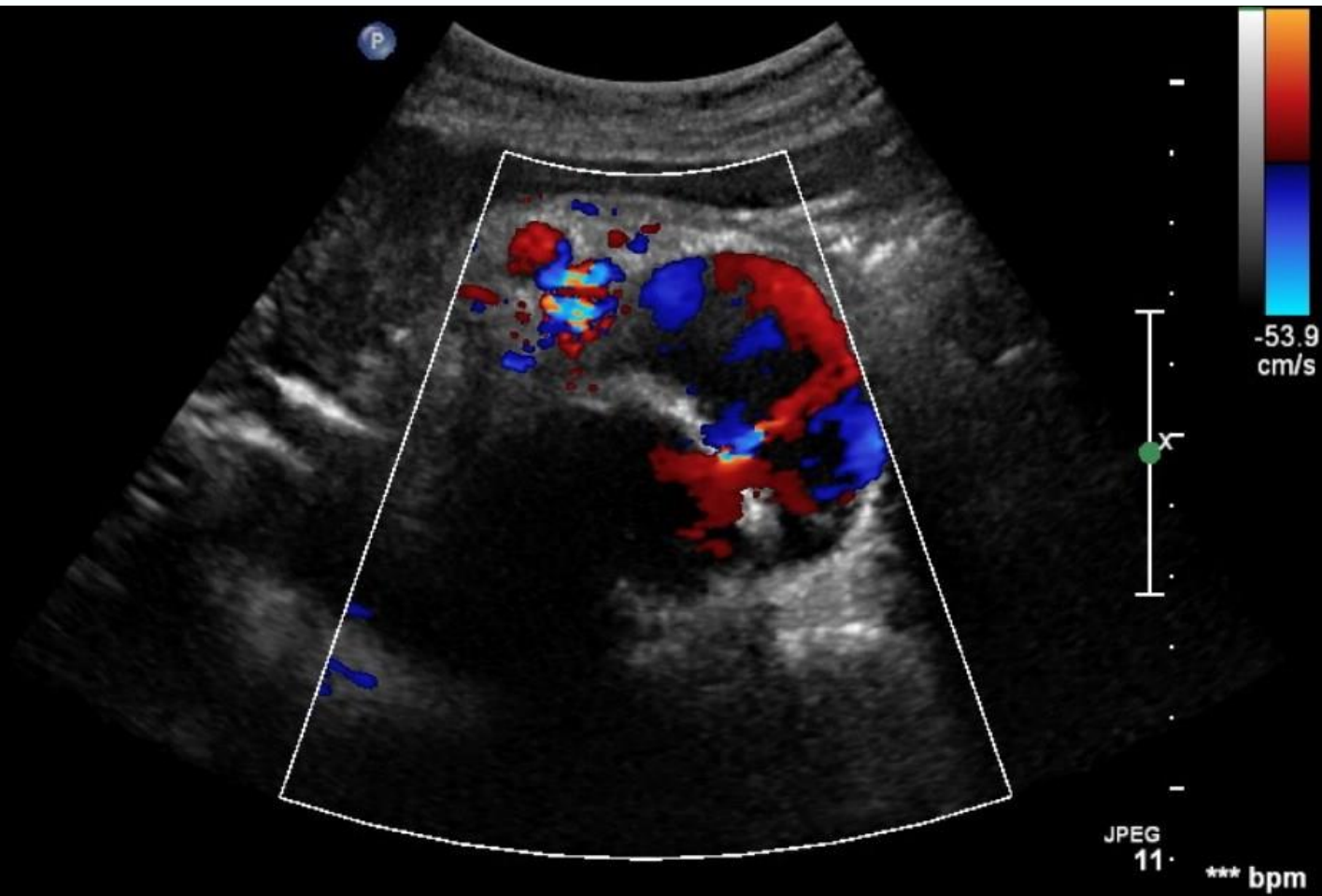
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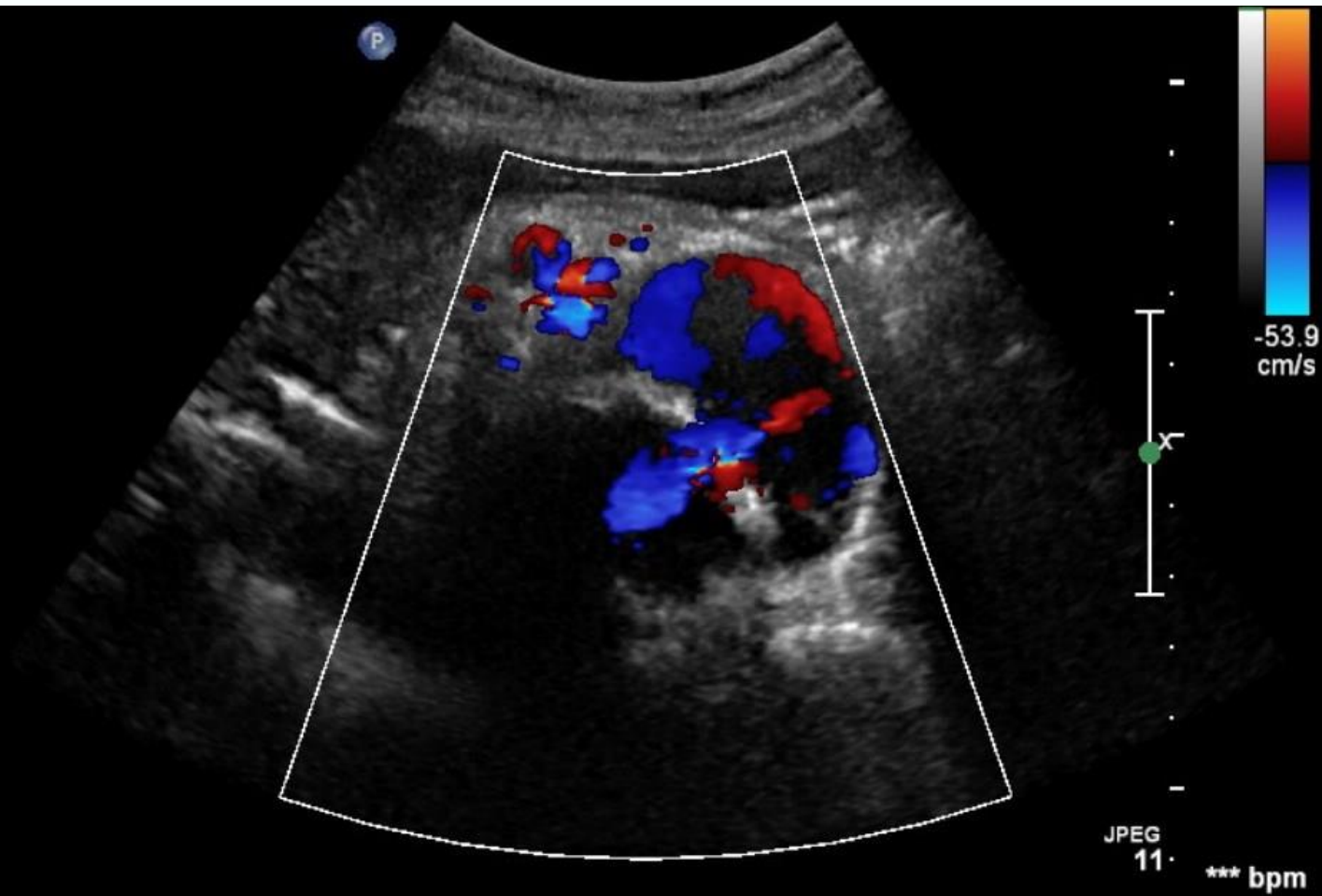
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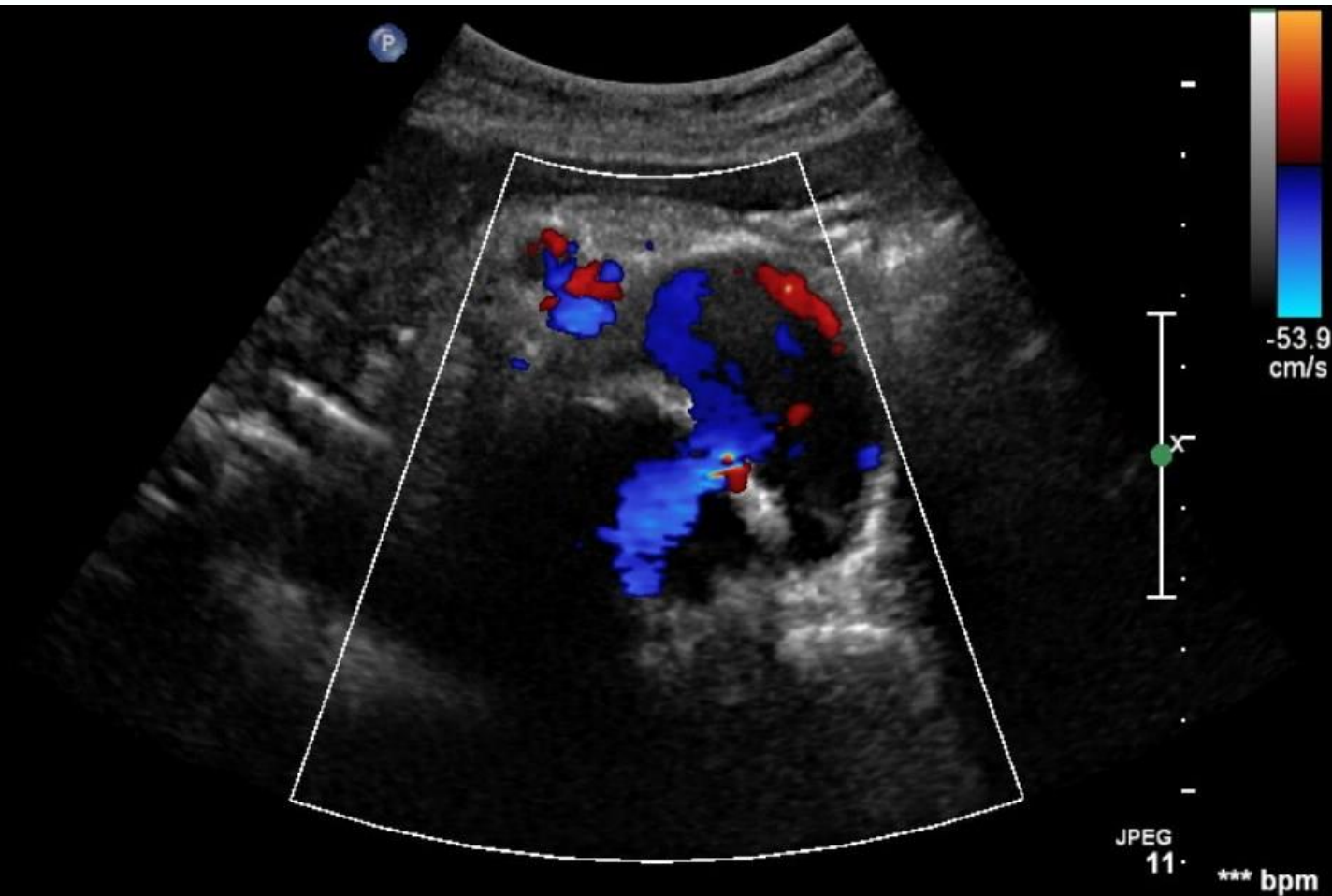
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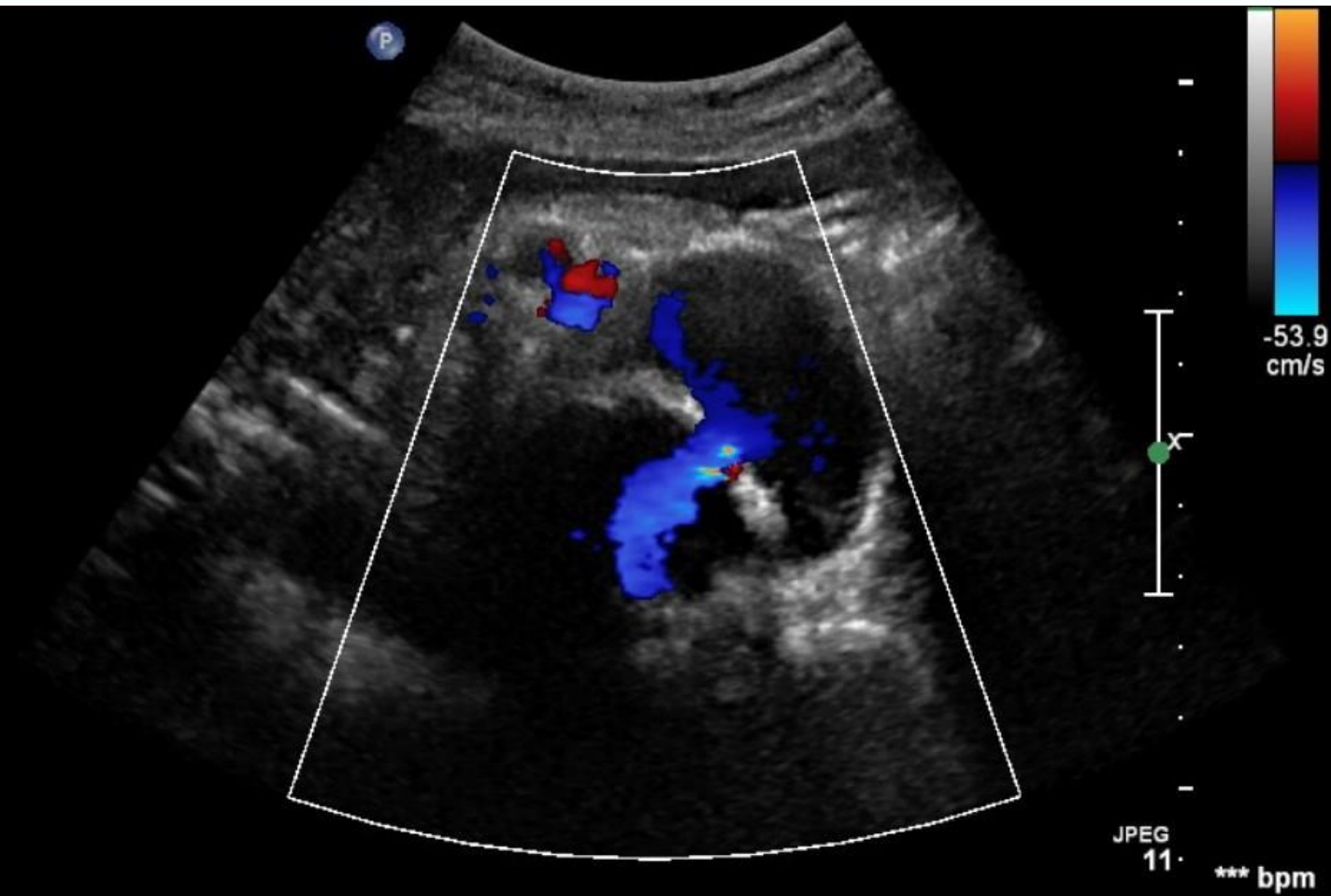
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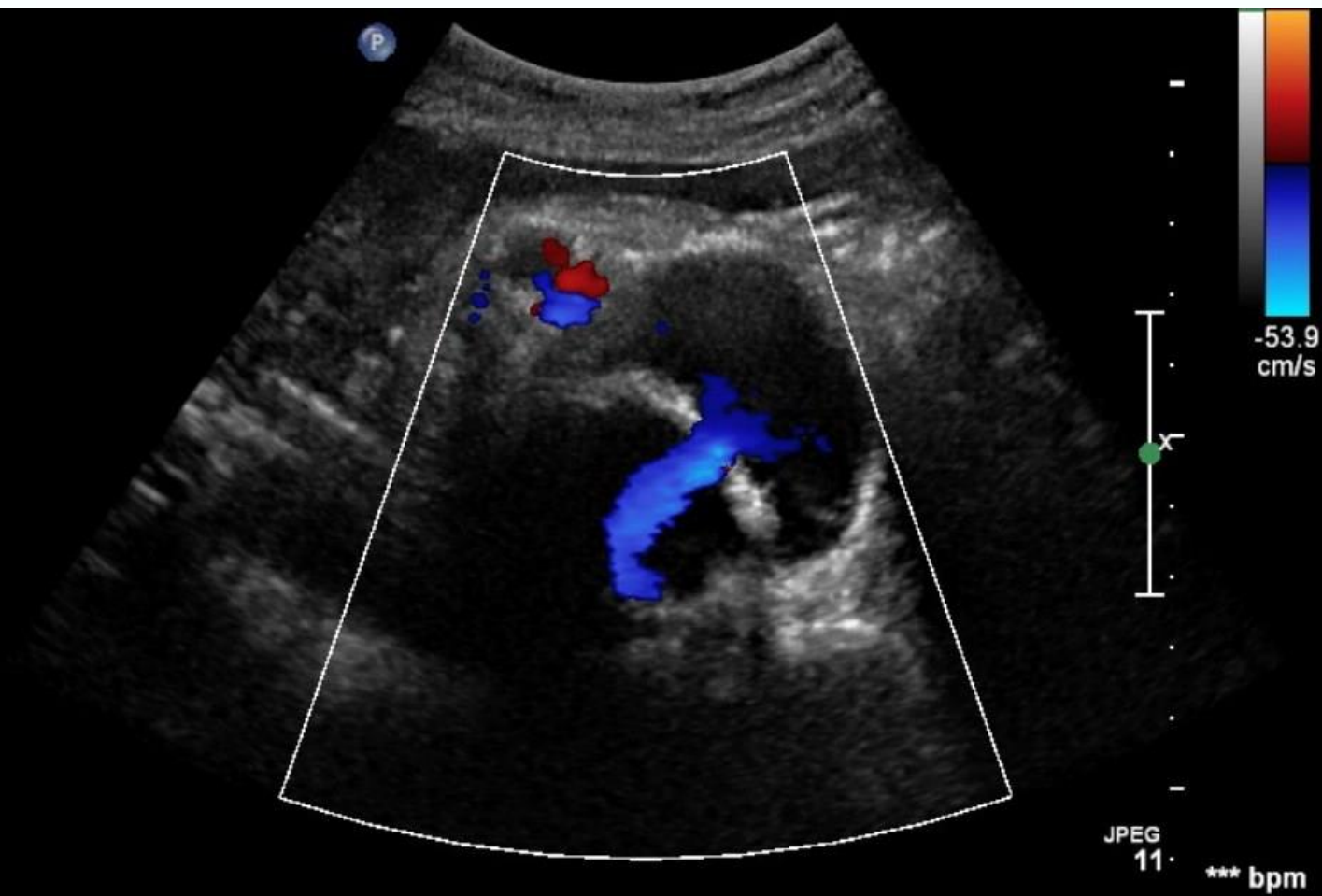
Aorta



Aorta



Aorta



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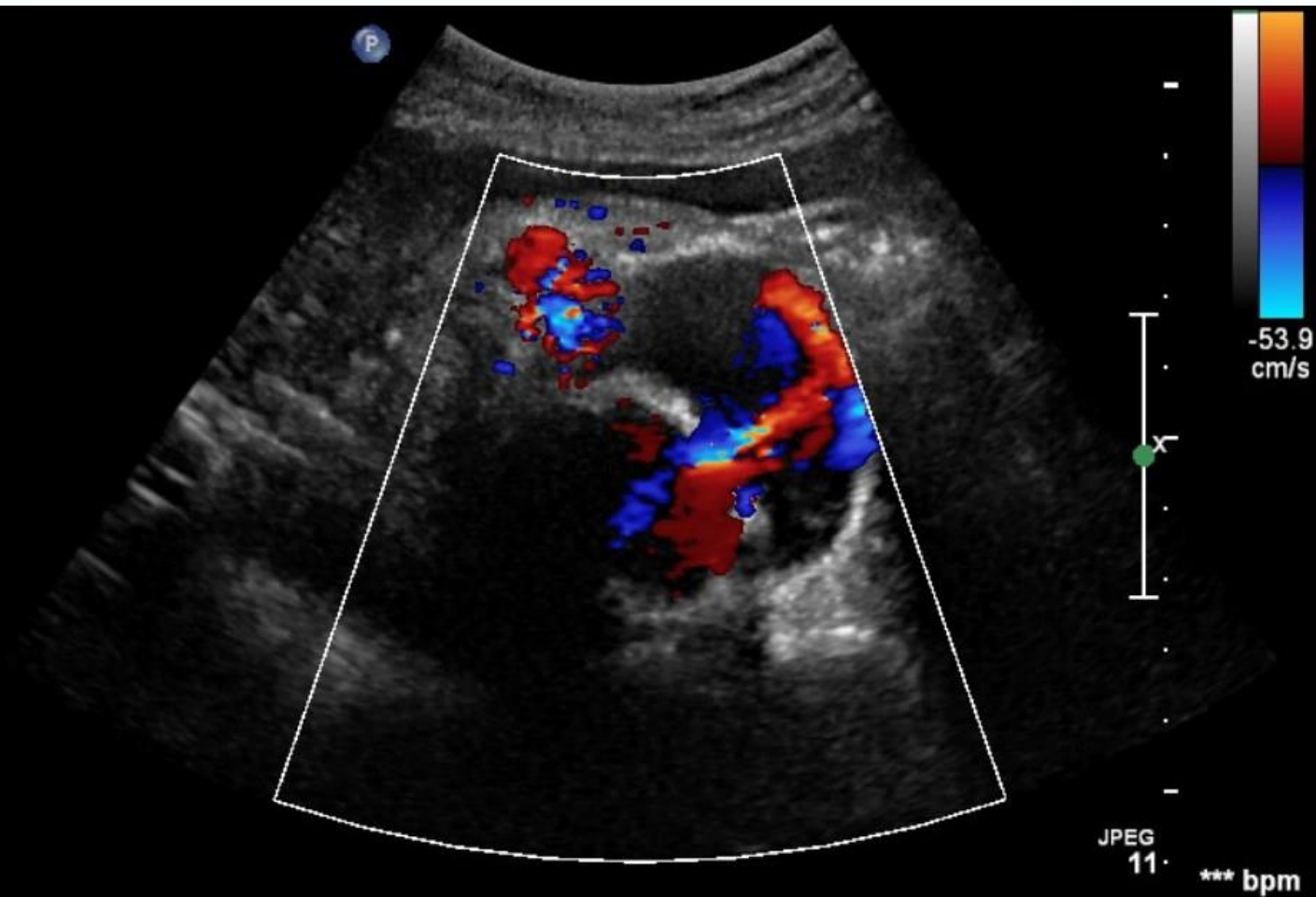
P

-53.9
cm/s

JPEG
11

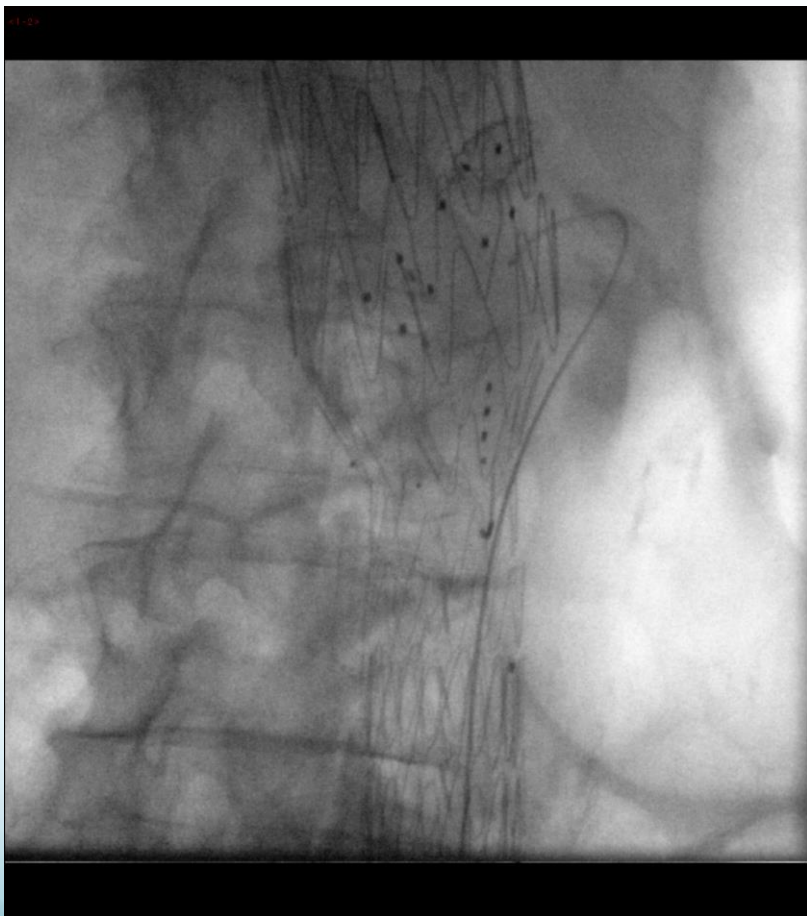
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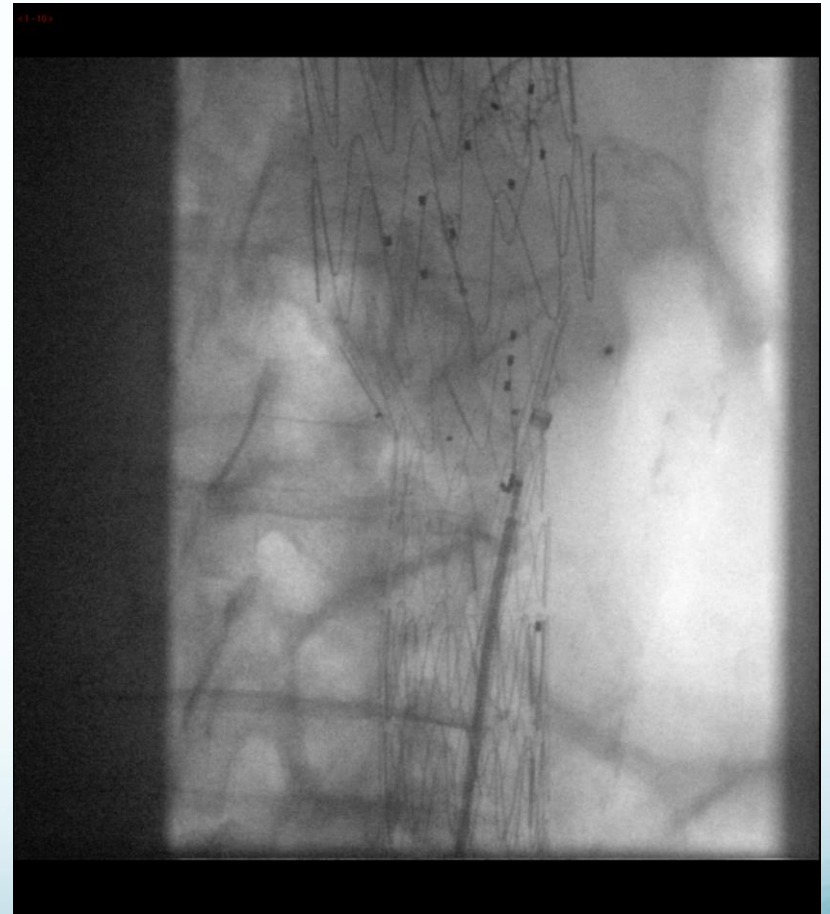
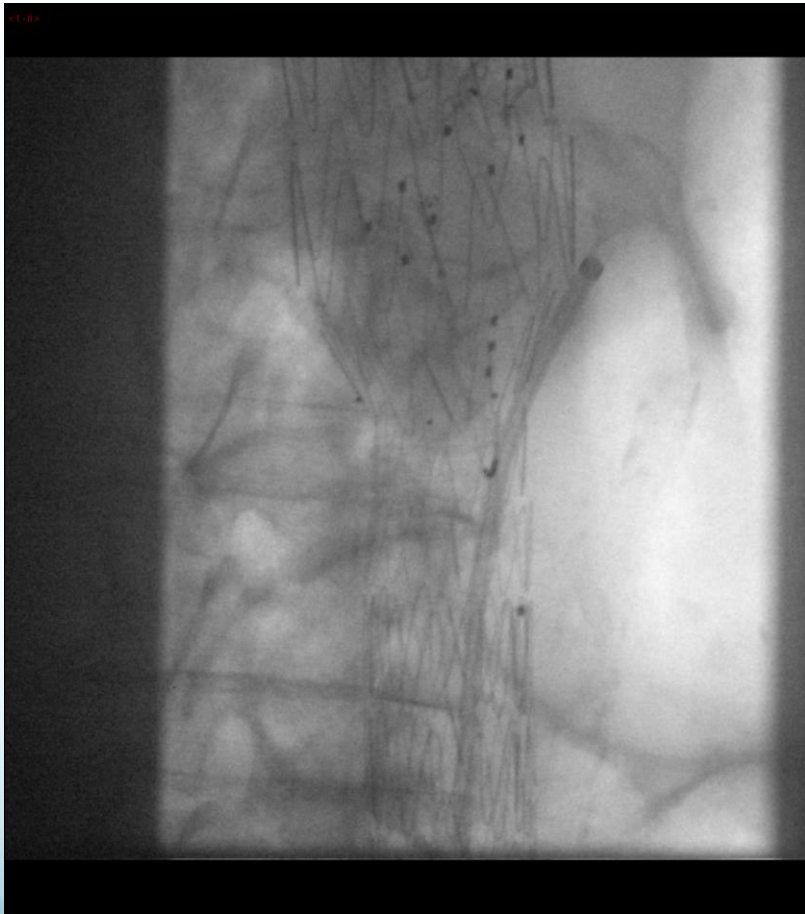
Aorta

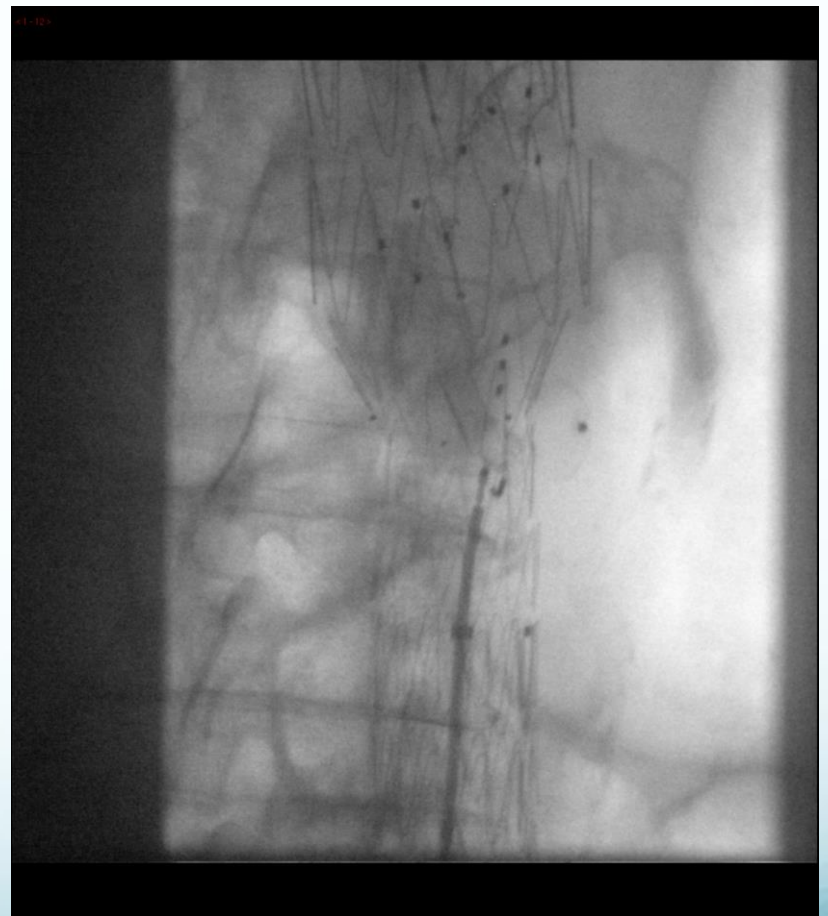
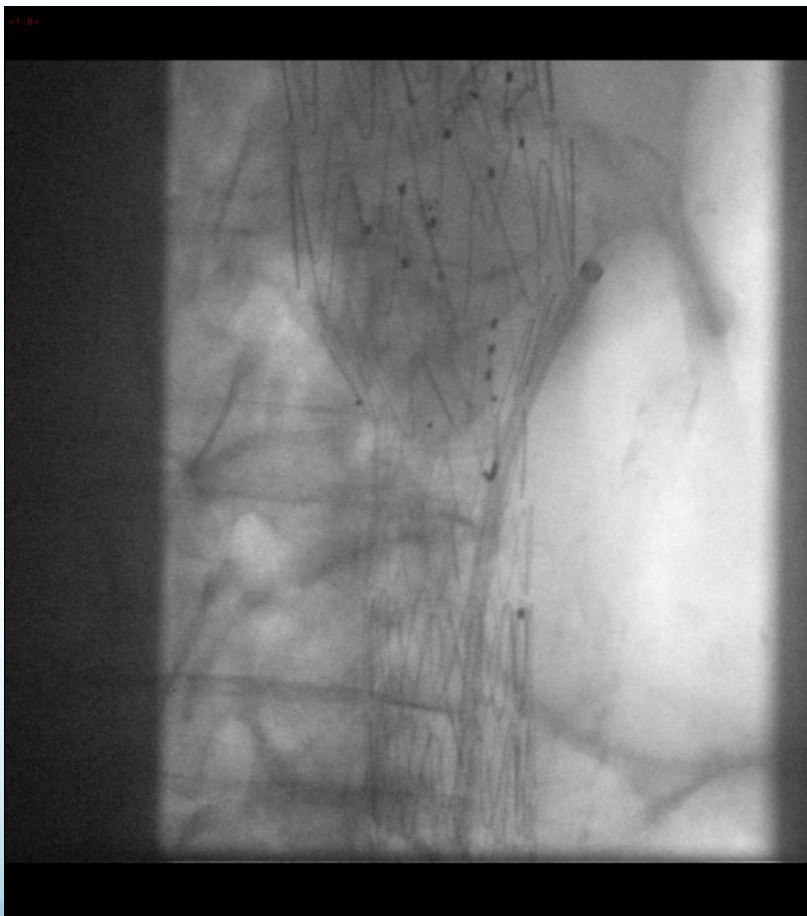


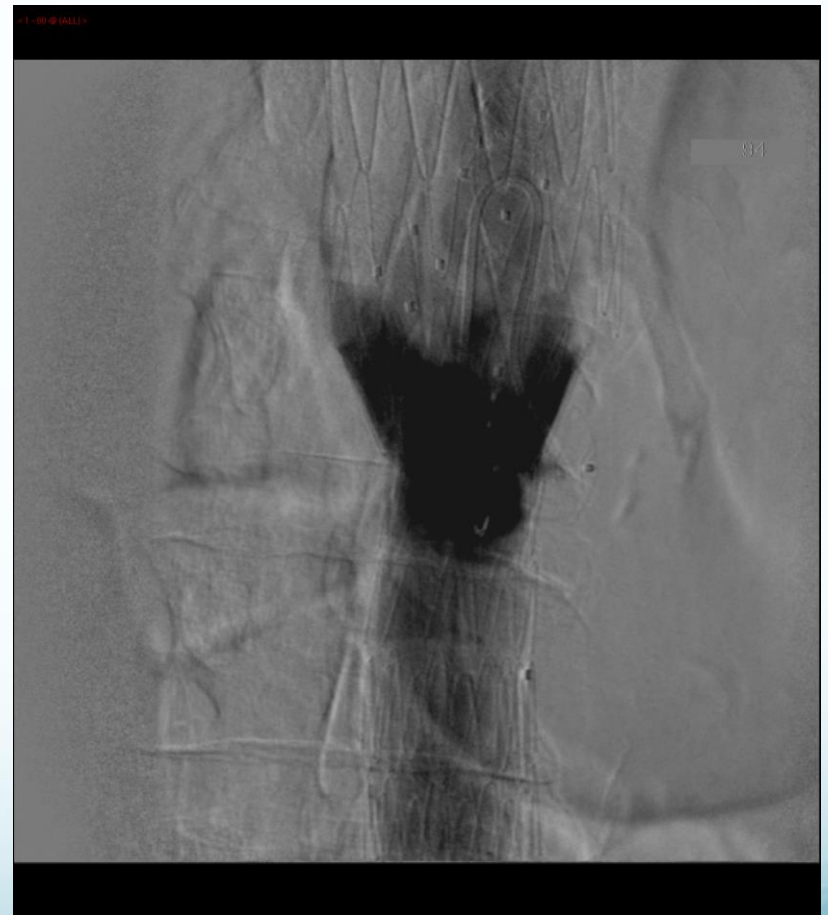
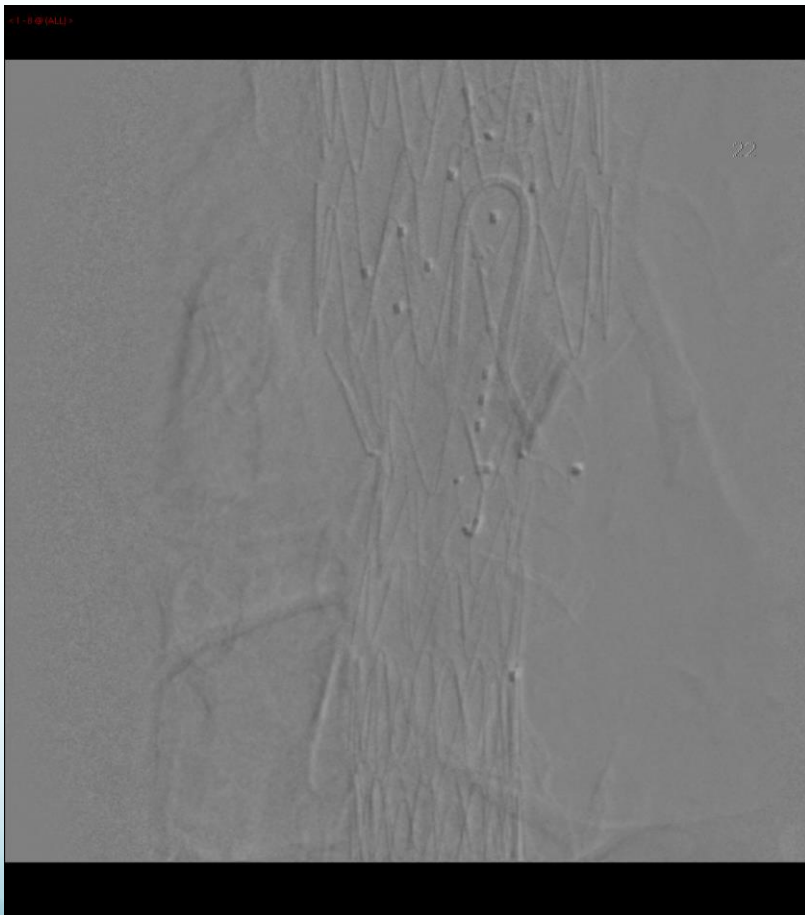




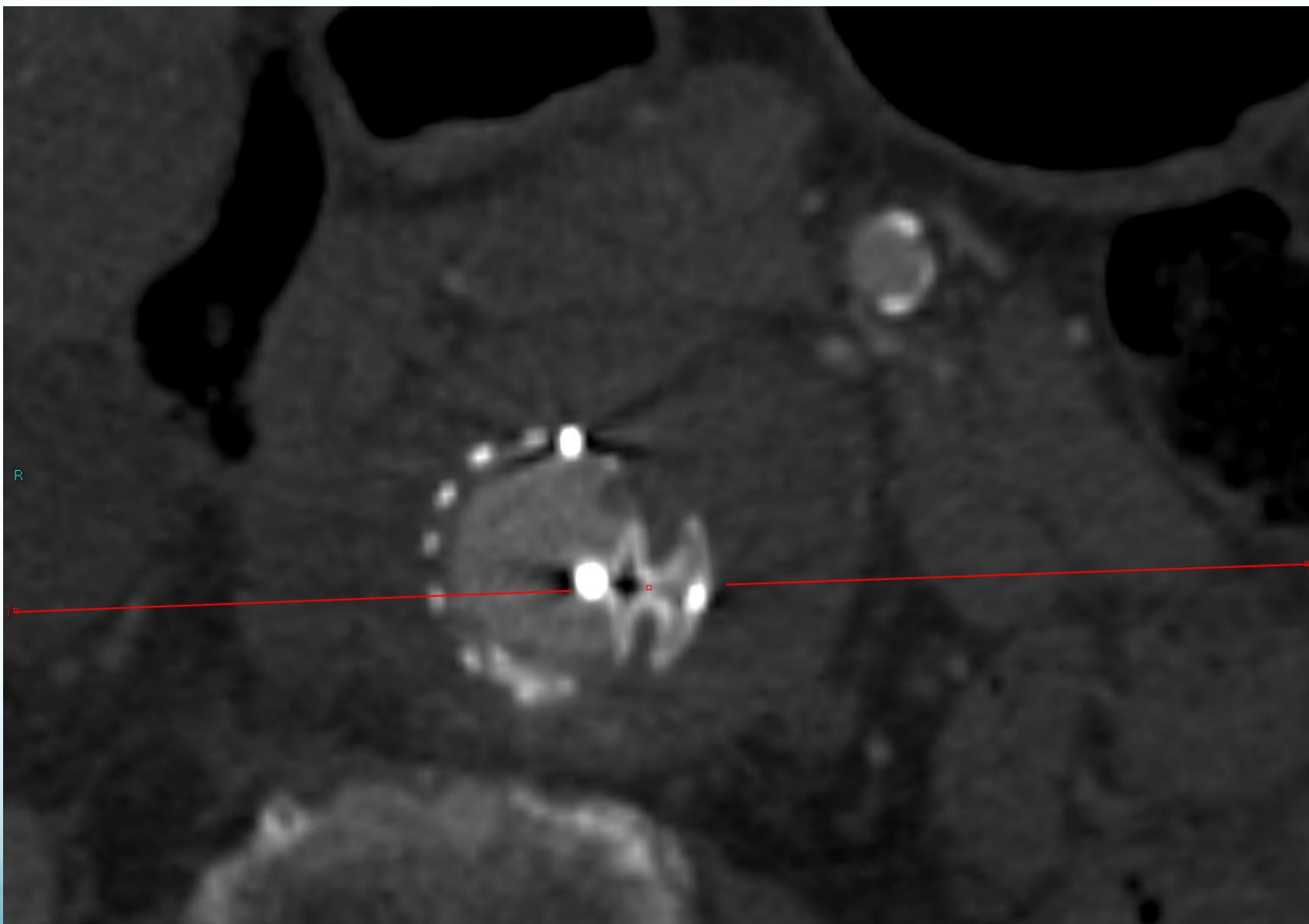


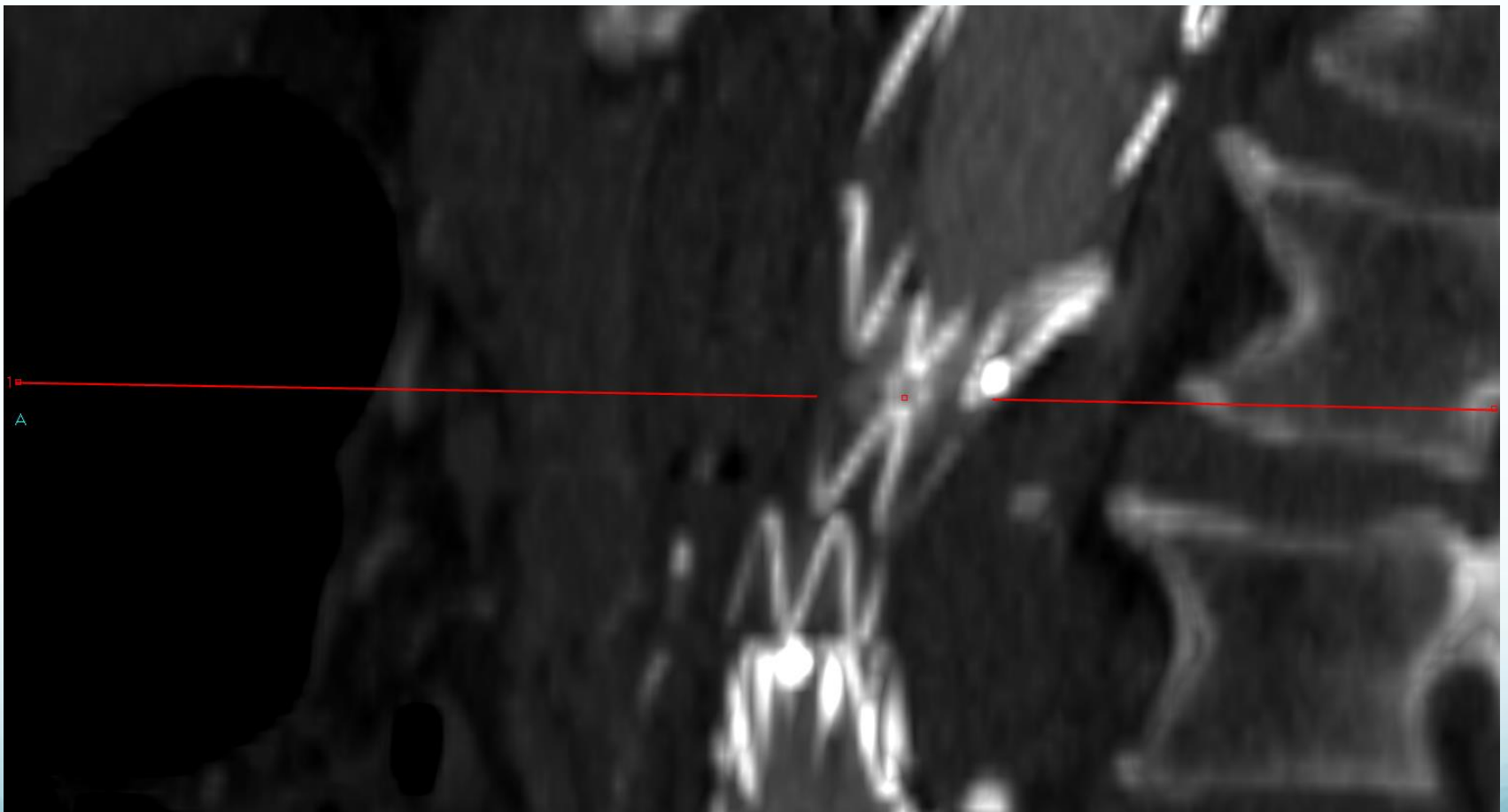












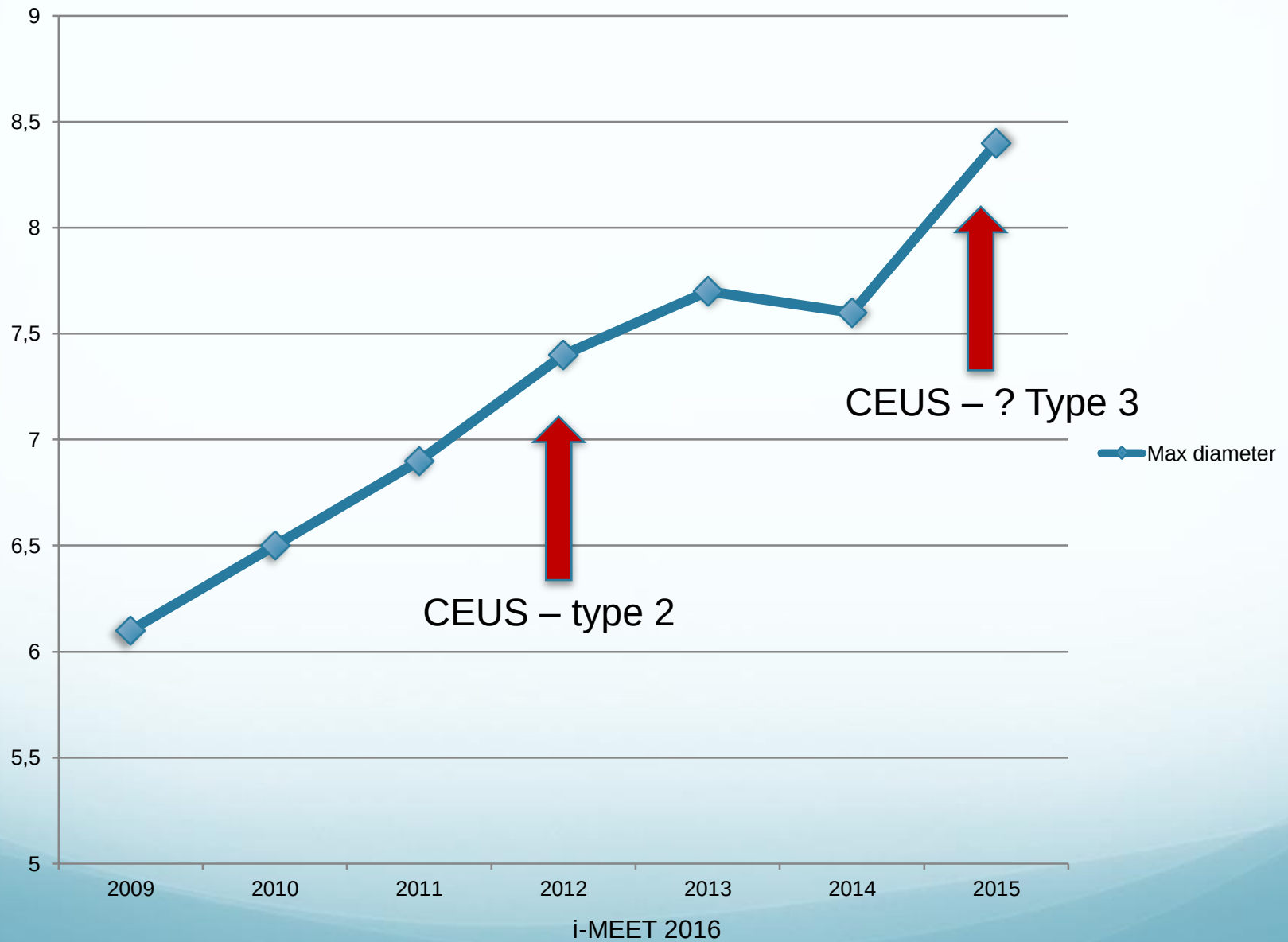
Case 4

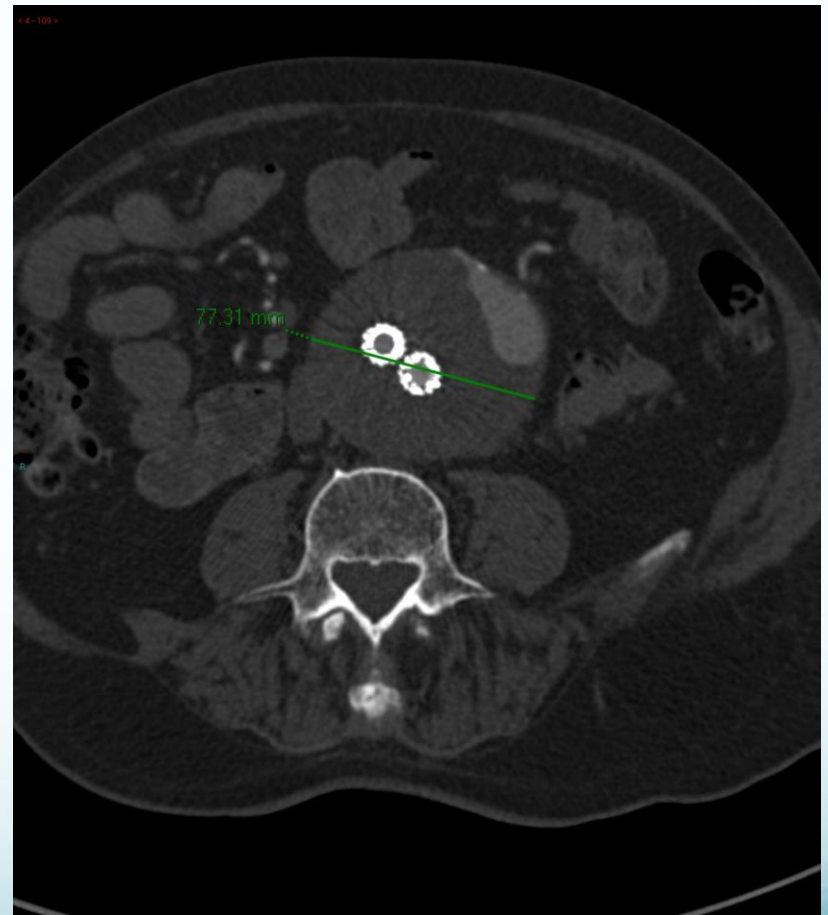
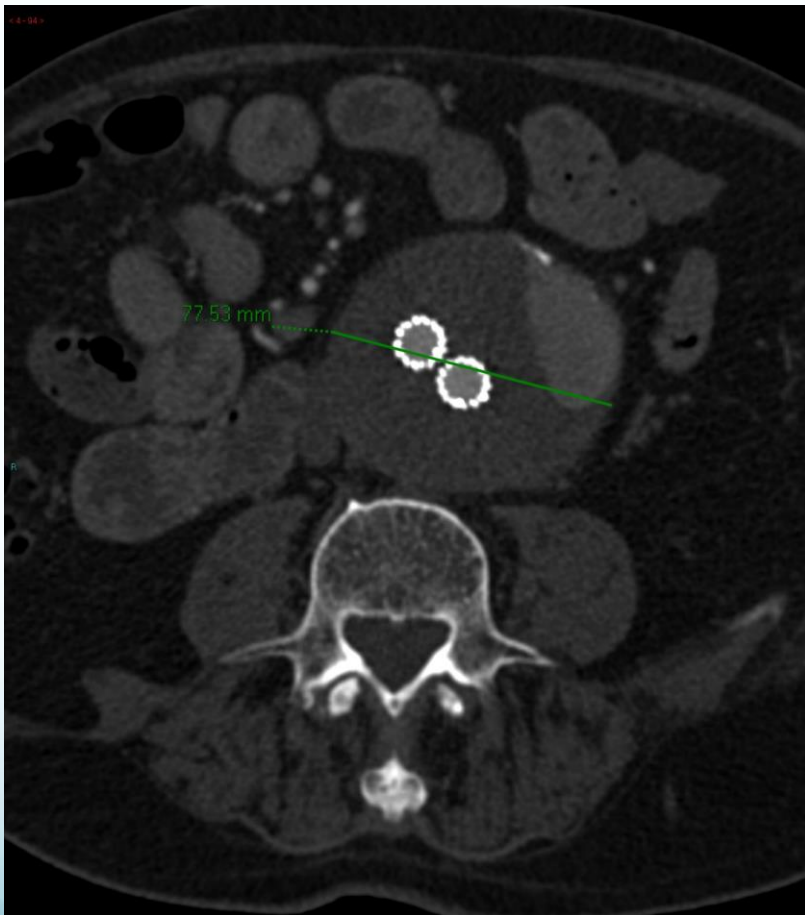
- Empirical relining

Empirical relining

- 89 yr old
- Type 2 endoleak from first imaging
- 6.1-8.4cm over 6 years
- 2012 – CEUS type 2
- 2015 – CEUS 2-3 second delay
- Relined with Nellix 2015
- No growth over 7 months

Max diameter





Conclusion

Aetiology

- Stent apex – fabric interaction

Diagnosis

- Difficult/intermittent?
- CEUS/US/CECT
- Limitations and benefits of angiography

Conclusion

Treatment

- Focal or diffuse fabric degradation
- Focal or diffuse treatment
- Reline with EVAR/EVAS
- Focal treatment with ASD closure device (off-label)
- Empirical